

12/14/2004

17

## Claims

1. A printing blanket unit for a printing blanket cylinder of a printing press, having a dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18, 42), wherein filler material (13, 14, 29, 51, 52) is arranged on at least one end of the printing blanket (03, 19, 43), wherein the filler material (13, 14, 29, 51, 52) is arranged at least as far as the exterior of the printing blanket (03, 19, 43), characterized in that the filler material (51, 52), which is embodied as a support element extends in the longitudinal direction of the printing blanket (43) on the outside of the printing blanket (43) facing away from the support plate (42) and that a length (L51, L52) of the filler material (51, 42) in the circumferential direction is greater than 0.1 mm.

2. A printing blanket unit for a printing blanket cylinder of a printing press, having a dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18, 42), wherein the filler material (13, 14, 29, 51, 52) is arranged on at least one end (11, 12, 31, 32, 61, 62) of the printing blanket (03, 19, 43), wherein the support plate (02, 18, 42) has two folded legs (04, 06, 21, 22, 44, 46), wherein the filler material (13, 14, 29, 51, 52) is arranged at least partially on a fold (08, 09, 27, 28, 48, 49) of the folded leg (04, 06, 21, 22, 44, 46) of the support plate (02, 18, 42), characterized in that both ends (61, 62) of the printing blanket (43) have their own filler material (51, 52) arranged

12/14/2004

on them.

3. The printing blanket unit in accordance with claim 2, characterized in that the filler material (51, 52) extends in the longitudinal direction of the printing blanket (43) on an outside of the printing blanket (43).

12/14/2004

18

4. The printing blanket unit in accordance with claim 2, characterized in that a length (L51, L52) of the filler material (51, 42) in the circumferential direction is greater than 0.1 mm.

5. The printing blanket unit in accordance with claim 1 or 2, characterized in that a length (L51, L52) of the filler material (51, 42) in the circumferential direction is greater than 0.4 mm.

6. The printing blanket unit in accordance with claim 1 or 2, characterized in that a length (L51, L52) of the filler material (51, 42) in the circumferential direction is less than 2 mm.

7. The printing blanket unit in accordance with claim 1 or 2, characterized in that a length (L51, L52) of the filler material (51, 42) in the circumferential direction is less than 5 mm.

8. The printing blanket unit in accordance with claim 1 or 2, characterized in that a thickness of the filler material (51, 52) is greater than the thickness of the printing blanket (43).

9. The printing blanket unit in accordance with claim 1, characterized in that the support plate (42) has at least one folded leg (44, 46).

10. The printing blanket unit in accordance with claim 2 or 9, characterized in that the folded leg (46) encloses an

12/14/2004

acute opening angle ( $\alpha_{06}$ ) together with the adjoining support plate (42).

11. The printing blanket unit in accordance with claim 2 or 9, characterized in that the folded leg (46) is arranged on the leading end of the printing blanket unit.

12. The printing blanket unit in accordance with claim 9, characterized in that the support plate (42) has two folded legs (44, 46).

12/14/2004

19

13. The printing blanket unit in accordance with claim 2 or 12, characterized in that the folded leg (44) at the trailing end forms an opening angle ( $\alpha_{04}$ ) of between 45 and 150 degrees with the adjoining support plate (42).

14. The printing blanket unit in accordance with claim 2 or 12, characterized in that the folded leg (44) at the trailing end forms an opening angle ( $\alpha_{04}$ ) of between 80 and 100 degrees with the adjoining support plate (42).

15. The printing blanket unit in accordance with claim 2 or 12, characterized in that the folded leg (44) at the trailing end forms an opening angle ( $\alpha_{04}$ ) of between 120 and 150 degrees with the adjoining support plate (42).

16. The printing blanket unit in accordance with claim 9 or 12, characterized in that the filler material (51, 52) is arranged at least partially on a fold (48, 49) of the folded leg (44, 46) of the support plate (42).

17. The printing blanket unit in accordance with claim 2, 9 or 12, characterized in that the filler material (51, 52) protrudes past the end of the support plate (42) in the longitudinal direction.

18. The printing blanket unit in accordance with claim 2 or 16, characterized in that the filler material (51, 52) is arranged at least partially past the fold (48, 49) on the folded leg (44, 46) of the support plate (42).

19. The printing blanket unit in accordance with claim

12/14/2004

1 or 2, characterized in that the filler material (51, 52) extends at a virtual extension (V43) of the exterior of the printing blanket (43) in the longitudinal direction of the printing blanket (43).

12/14/2004

20

20. The printing blanket unit in accordance with claim 1 or 2, characterized in that in the radial direction the filler material (51, 52) protrudes at least partially past the virtual extension (V43) of the exterior of the printing blanket (43).

21. The printing blanket unit in accordance with claim 1, characterized in that both ends (61, 62) of the printing blanket (43) have their own filler material (51, 52) arranged on them.

22. The printing blanket unit in accordance with claim 2 or 16, characterized in that the filler material (51, 52) is placed around the folds (48, 49).

23. The printing blanket unit in accordance with claim 1, 2 or 21, characterized in that, in the state wherein it is mounted on the printing blanket cylinder, the filler material (51, 52) arranged on one end (61, 62) of the printing blanket (43) is not connected with the other end (61, 62) of the printing blanket (43) or with the other filler material (51, 52) arranged on the other end (61, 62) of the printing blanket (43).

24. The printing blanket unit in accordance with claim 23, characterized in that, in the state wherein it is mounted on the printing blanket cylinder, the filler material (51, 52) arranged on one end (61, 62) of the printing blanket (43) does not touch the other end (61, 62) of the printing blanket (43) or the other filler material (51, 52) arranged on the other end (61, 62) of the printing blanket (43).

12/14/2004

25. A method for producing a printing blanket unit for a printing blanket cylinder of a printing press, having a dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18, 42), wherein filler material (13, 14, 29, 51, 52) is arranged on at least one end of the printing blanket (03, 19, 43), wherein at least the support plate (42) is arranged on a device (41) for processing outside the



12/14/2004

21

printing press, and the filler material (51, 52) is introduced into this processing device (41), characterized in that the printing blanket unit is vulcanized following the introduction of the filler material (51, 52).

26. The method in accordance with claim 25, characterized in that the filler material (51, 52) is introduced into a mold (54, 56) of the processing device (41).

27. The method in accordance with claim 25, characterized in that the filler material (51, 52) is introduced in the flowable state.

28. The method in accordance with claim 25, characterized in that the filler material (51, 52) is deformed in the course of being introduced.

29. The method in accordance with claim 25, characterized in that the filler material (51, 52) is introduced following the folding of at least one leg (44, 46) of the support plate (42).

30. The method in accordance with claim 25, characterized in that separate filler materials (51, 52) are introduced at both ends of the printing blanket unit.

31. The method in accordance with claim 29 or 30, characterized in that the filler material (51, 52) is introduced at both ends of the printing blanket unit following the folding of the respective leg (44, 46) of the

12/14/2004

support plate (42).

32. The method in accordance with claim 31, characterized in that both legs (44, 46) of the printing blanket unit are folded prior to introducing the filler material (51, 52).

12/14/2004

22

33. The method in accordance with claim 25, characterized in that the printing blanket (43) is arranged on the support plate (42) prior to introducing the filler material (51, 52).

34. The method in accordance with claim 25, characterized in that the outside of the filler material (51, 52) is processed after the filler material (51, 52) has been introduced.

35. The method in accordance with claim 34, characterized in that the filler material (51, 52) is processed in accordance with the required measurements.

36. The method in accordance with claim 26, characterized in that after the filler material (51, 52) has been introduced, the mold (54, 56) is opened.

37. The method in accordance with claim 36, characterized in that at least one surface which delimits the mold (54, 56) is moved in the longitudinal direction of the support plate (42).

38. The method in accordance with claim 36, characterized in that a surface at each end of the printing blanket unit, which respectively delimits the mold (54, 56), is moved in the longitudinal direction of the support plate (42).

39. A method for producing a printing blanket unit for a printing blanket cylinder of a printing press, having a

12/14/2004

dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18, 42), wherein filler material (13, 14, 29, 51, 52) is arranged on at least one end of the printing blanket (03, 19, 43), characterized in that filler material (51, 52) is applied to the support plate (42), which already has at least one folded end and to which a printing blanket (43) has already been applied, in the area of the fold (48, 49) of the support plate (42) and is connected with a front face of the end (61, 62) of the printing blanket (43).

12/14/2004

23

40. The method in accordance with claim 39, characterized in that both ends (61, 62) of the printing blanket (43) have their own filler material (51, 52) arranged on them.

41. The method in accordance with claim 39, characterized in that in the state wherein it is mounted on the printing blanket cylinder, the filler material (51, 52) arranged on one end (61, 62) of the printing blanket (43) is not connected with the other end (61, 62) of the printing blanket (43) or with the other filler material (51, 52) arranged on the other end (61, 62) of the printing blanket (43).

42. The method in accordance with claim 39, characterized in that in the state wherein it is mounted on the printing blanket cylinder, the filler material (51, 52) arranged on one end (61, 62) of the printing blanket (43) does not touch the other end (61, 62) of the printing blanket (43) or the other filler material (51, 52) arranged on the other end (61, 62) of the printing blanket (43).

43. A printing blanket unit for a printing blanket cylinder of a printing press, having a dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18, 42), wherein filler material (13, 14, 29, 51, 52) is arranged on at least one end of the printing blanket (03, 19, 43), characterized in that the printing blanket unit has at least one end of a greater thickness than the area located between the two ends, that in the area of this end the exterior of

12/14/2004

the printing blanket unit protrudes in the radial direction at least partially past the virtual extension (V43) of the exterior of the printing blanket (43).

44. A printing blanket unit for a printing blanket cylinder of a printing press, having a dimensionally stable support plate (02, 18, 42) and a printing blanket (03, 19, 43) fastened on the exterior of the support plate (02, 18,

12/14/2004

24

42), wherein filler material (13, 14, 29, 51, 52) is arranged on at least one end of the printing blanket (03, 19, 43), characterized in that in the state wherein it is applied to the printing blanket cylinder, a radius (R11, R12) of the cylinder in relation to the exterior of the printing blanket (03), or in relation to the outside of the filler material (13, 14), is greater, at least in the area of an end of the printing blanket unit, than a radius (R03) of the cylinder in relation to the exterior of the printing blanket in the area between the two ends.

45. The printing blanket unit in accordance with claim 43 or 44, characterized in that a filler material (51, 52) has been arranged on the support plate (42) for thickening the end.

46. The printing blanket unit in accordance with claim 43 or 44, characterized in that the thickening of the end of the printing blanket unit is less than 10 mm in the circumferential direction.

47. The printing blanket unit in accordance with claim 1, 2, 43 or 43, characterized in that the support plate (42) is made of metal.

48. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the printing blanket (43) is multi-layered.

49. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the filler material

12/14/2004

(51, 52) is of one piece.

50. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the materials of the filler material (51, 52) and the printing blanket (43) are different.

1



12/14/2004

25

51. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that materials of the filler material (51, 52) and the printing blanket (43) are identical.

52. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the filler material (51, 52) is arranged on the printing blanket cylinder prior to mounting the printing blanket unit.

53. The printing blanket unit in accordance with claim 44, characterized in that the printing blanket unit has the increased radius (R11, R12) in the circumferential direction of less than 10 mm.

54. The printing blanket unit in accordance with claim 53, characterized in that the printing blanket unit has the increased radius (R11, R12) in the circumferential direction of less than 5 mm.

55. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the printing blanket cylinder is in contact with a forme cylinder.

56. The printing blanket unit in accordance with claim 55, characterized in that the forme cylinder has at least one printing plate.

57. The printing blanket unit in accordance with claim 55, characterized in that the forme cylinder has at least one groove, i.e. an interruption at the circumference.

12/14/2004

58. The printing blanket unit in accordance with claim 1, 2, 43 or 44, characterized in that the filler material (13, 14, 29, 51, 52) cooperates with a printing plate so that they mutually support each other.

12/14/2004

26

59. The printing blanket unit in accordance with claim 2, characterized in that the printing blanket (03, 43) is arranged on top of the filler material (13, 14, 51, 52).

60. The method in accordance with claim 25 or 39, characterized in that the support plate (42) is made of metal.

61. The method in accordance with claim 25 or 39, characterized in that the printing blanket (43) is multi-layered.

62. The method in accordance with claim 25 or 39, characterized in that the filler material (51, 52) is of one piece.

63. The method in accordance with claim 25 or 39, characterized in that the materials of the filler material (51, 52) and the printing blanket (43) are different.

64. The method in accordance with claim 25 or 39, characterized in that materials of the filler material (51, 52) and the printing blanket (43) are identical.

65. The method in accordance with claim 25 or 39, characterized in that the filler material (51, 52) is arranged on the printing blanket cylinder prior to mounting the printing blanket unit.

66. The method in accordance with claim 25 or 39,

12/14/2004

characterized in that the printing blanket cylinder is in contact with a forme cylinder.

67. The method in accordance with claim 66, characterized in that the forme cylinder has at least one printing plate.

12/14/2004

27



68. The method in accordance with claim 66, characterized in that the forme cylinder has at least one groove, i.e. an interruption on the circumference.

69. The method in accordance with claim 25 or 39, characterized in that the filler material (13, 14, 29, 51, 52) cooperates with a printing plate so that they mutually support each other.